Visual Tsunami 2.0: a multi-physics, user-friendly, hydrodynamics design code

C.S. Debonnel^{1,2}, L. Trubov¹, C.A. Zeballos¹, S.S. Yu², and P.F. Peterson¹

(1) University of California 4118 Etcheverry Hall Berkeley, CA 94720 USA

(2) Lawrence Berkeley National Laboratory 1 Cyclotron Road MS 47RO112 Berkeley, CA 94720

Since the early 1990s, the series of simulation code known as TSUNAMI has been the main tool employed to explore gas dynamics phenomena in thick-liquid protected inertial fusion target chambers. The applicability and user-friendliness of the code was recently extended through a set of MATLAB pre- and post-processing tools and a new core was written in Fortran 95. The code, Visual Tsunami 1.0, was documented in Ref. 1. The latest version of the code, Visual Tsunami 2.0, introduces a novel MATLAB core and makes use of the user-friendly pre- and post-processing tools developed for Visual Tsunami 1.0. An overview of the code models will be presented along with a few examples of its capabilities and applications.

[1] C.S. Debonnel et al, Fusion Science and Technology, 47-4, pp 1165-1169, May 2005.